

which are adjacent to such enveloping layer, enveloped fiber, lined cell or pore wall, or the like.

The term "elastomeric" as used herein refers to the ability of a cured polymer treated web to stretch and return to its original state.

The term "curing", or "cure", as used herein, refers to a change in state, condition, and/or structure in a material, such as a curable polymer composition that is usually, but not necessarily, induced by at least one applied variable, such as time, temperature, radiation, presence and quantity in such material of a curing catalyst or curing accelerator, or the like. The term "curing" or "cured" covers partial as well as complete curing. In the occurrence of curing in any case, such as the curing of such a polymer composition that has been selectively placed into a porous flexible substrate or web, the components of such a composition may experience occurrence of one or more of complete or partial (a) polymerization, (b) cross-linking, or (c) other reaction, depending upon the nature of the composition being cured, application variables, and presumably other factors. It is to be understood that the present invention includes polymers that are not cured after application or are only partially cured after application.

The term "filled" as used herein in relation to interstices, or interstitial spaces, or open cells, and to the amount of polymer composition therein in a given web, substrate, or the fibers in such web or substrate, designates the presence of such composition therein. When a given interstitial space or open cell is totally taken up by such composition, it is "completely filled" or "plugged". The term "filled" also refers to an interstitial space having a film or layer of polymer composition over or through it so that it is closed even though the entire thickness of the interstitial space is not completely filled or plugged.

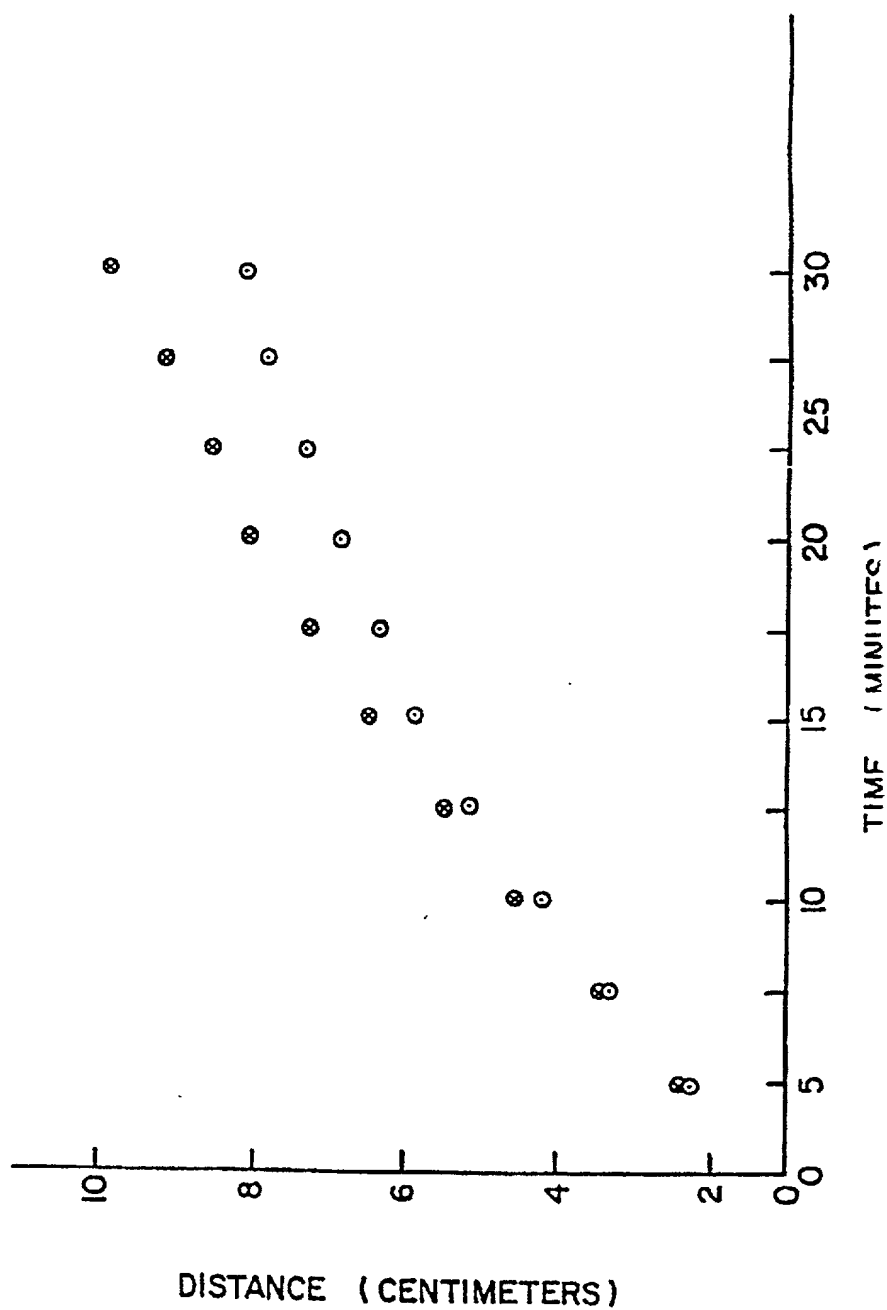
Measurements of the degree of envelopment, interstitial fillage, plugging, or the like in an internal coating are conveniently made by microscopy, or preferably by conventional scanning electron microscopy (SEM) techniques. Because of the nature of such measuring by SEM for purposes of the present invention, "a completely filled" interstitial space or open cell can be regarded as a "plugged" interstitial space or open cell.

The term "polymer", or "polymeric" as used herein, refers to monomers and oligomers as well as polymers and polymeric compositions, and mixtures thereof, to the extent that such compositions and mixtures are curable and shear thinnable.

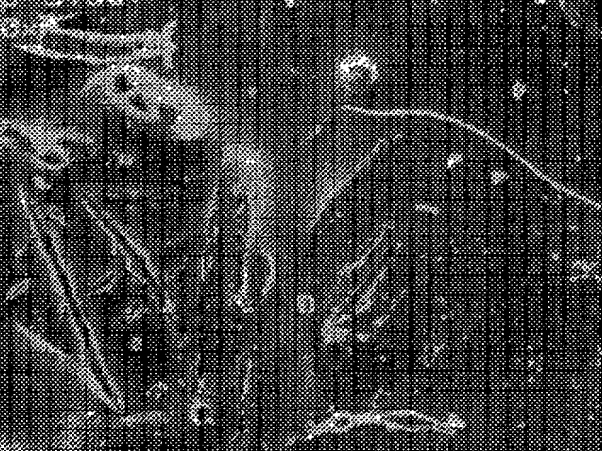
The term "shear thinning", in its broadest sense, means the lowering of the viscosity of a material by the application of energy thereto.

A porous web or fabric is preferably untreated or scoured before being treated in accordance with the present invention. Preferably a web can be preliminarily treated, preferably saturated, for example, by padding, to

FIG. 1



Poly-Cotton + 590 LSR
Top Side
150X



150X

FIG. 2

[illegible]

4-000 000 11/11/11 11:11:11 11:11:11 11:11:11
 11:11:11 11:11:11 11:11:11 11:11:11 11:11:11 11:11:11
 11:11:11 11:11:11 11:11:11 11:11:11 11:11:11 11:11:11

FIG. 3b

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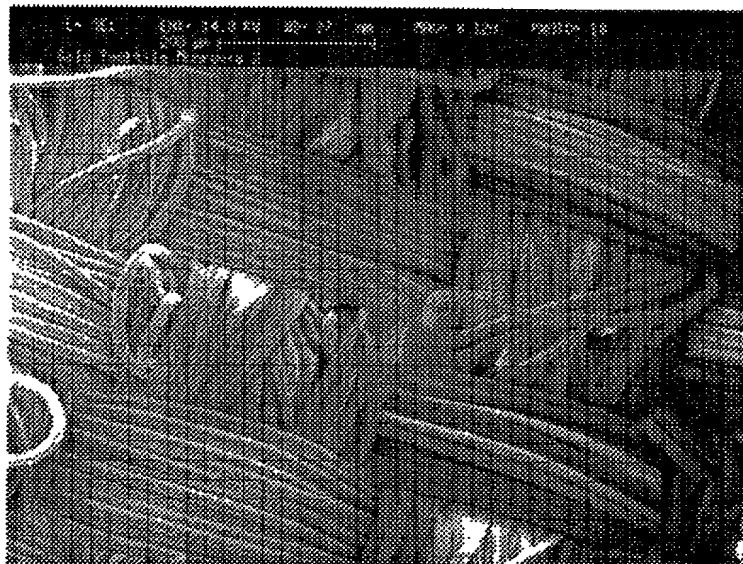
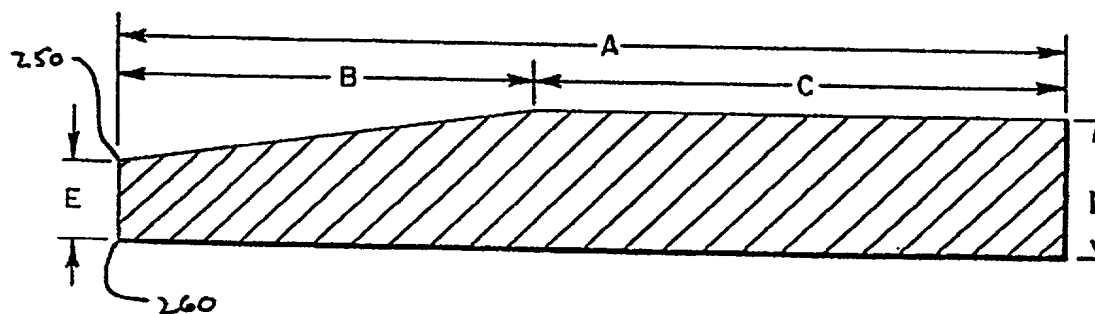


FIG. 3c



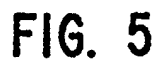
[illegible]

FIG. 5

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FIG. 7

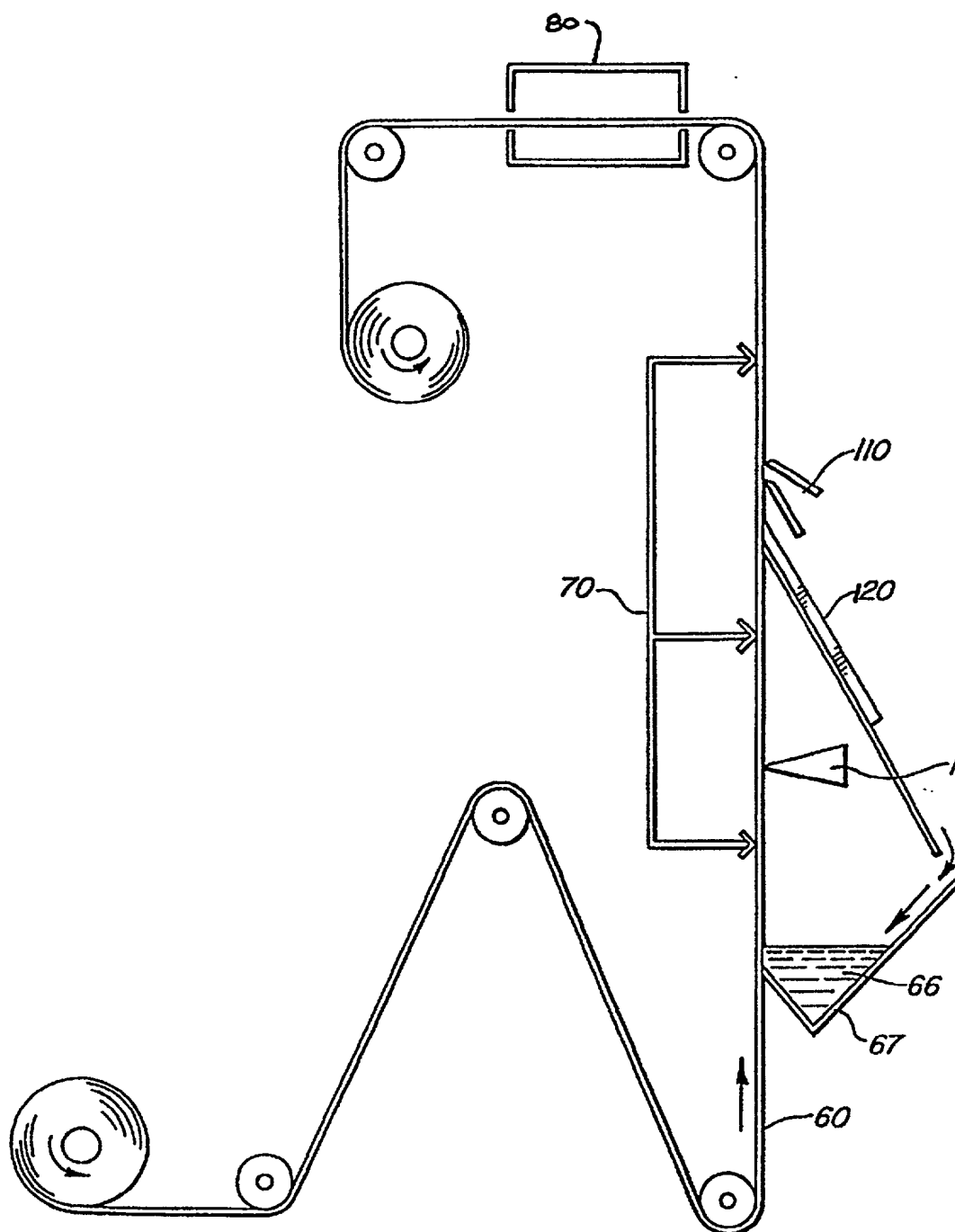


FIG. 8a PRIOR ART

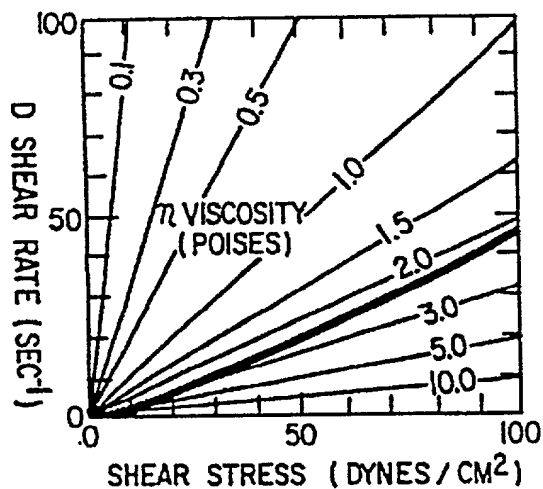


FIG. 8b PRIOR ART

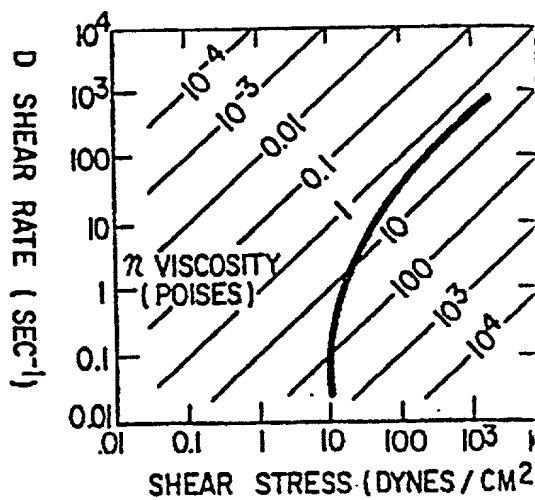


FIG. 8c PRIOR ART

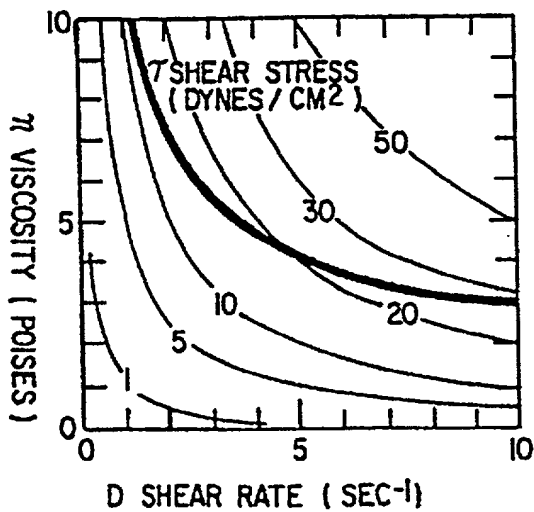


FIG. 8d PRIOR ART

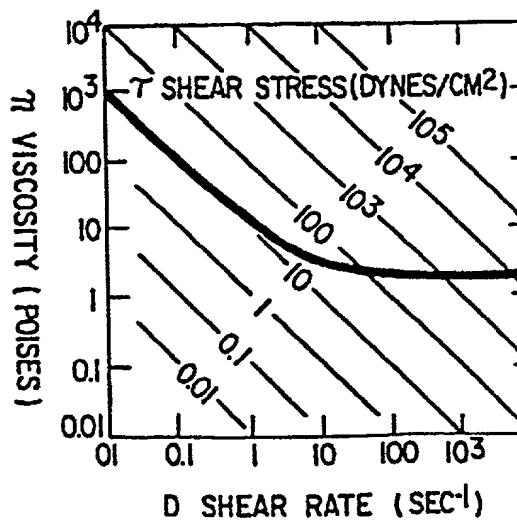


FIG. 9 PRIOR ART

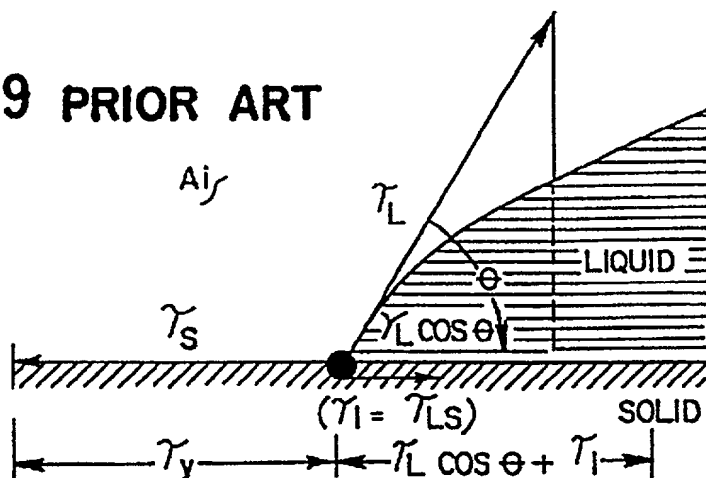
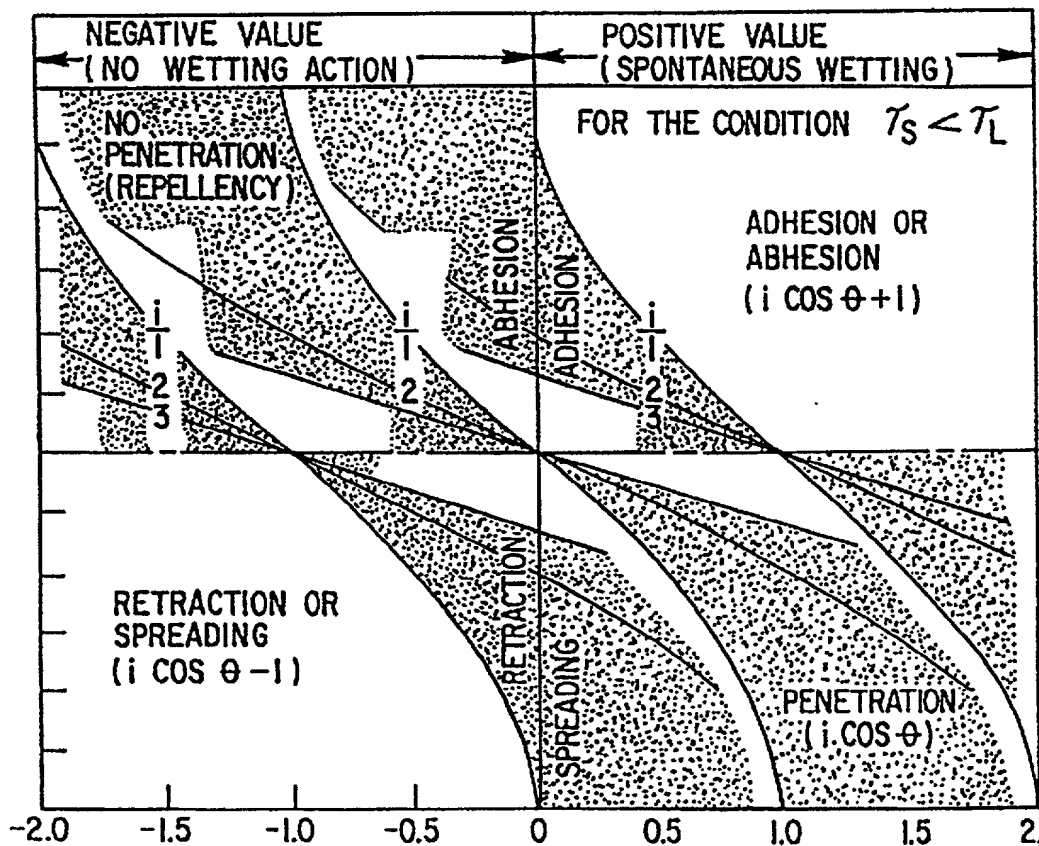


FIG. 10 PRIOR ART



FUNCTION OF θ AND i AS INDICATED ON DIAGRAM FOR ADHESION, PENETRATION, AND SPREADING, RESPECTIVELY

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FIG. IIa PRIOR ART

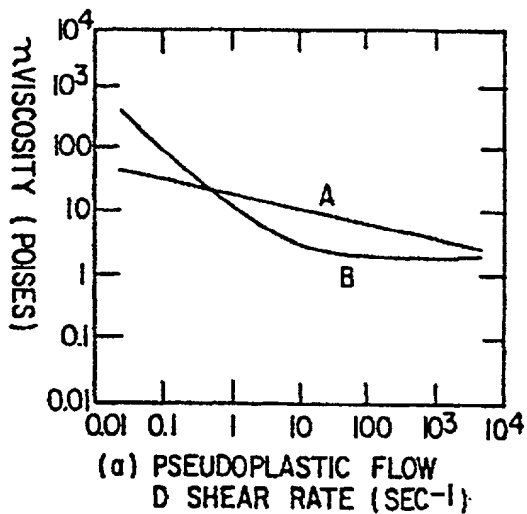


FIG. IIb PRIOR ART

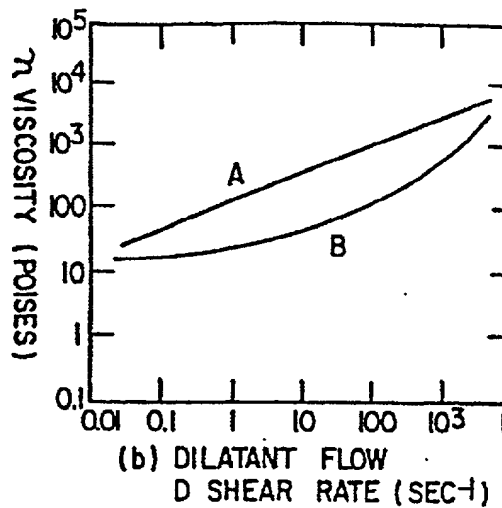


FIG. IIc PRIOR ART

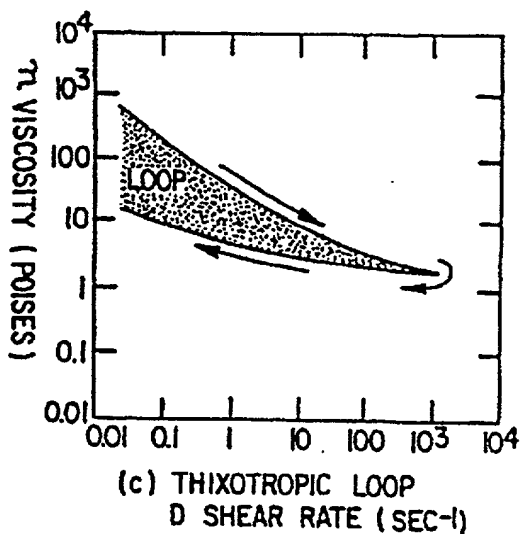
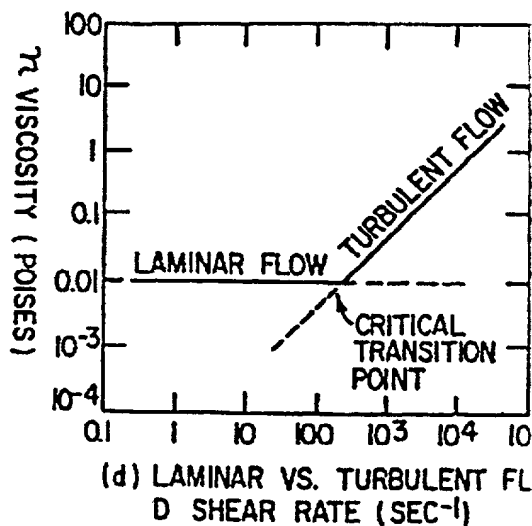


FIG. IIId PRIOR ART



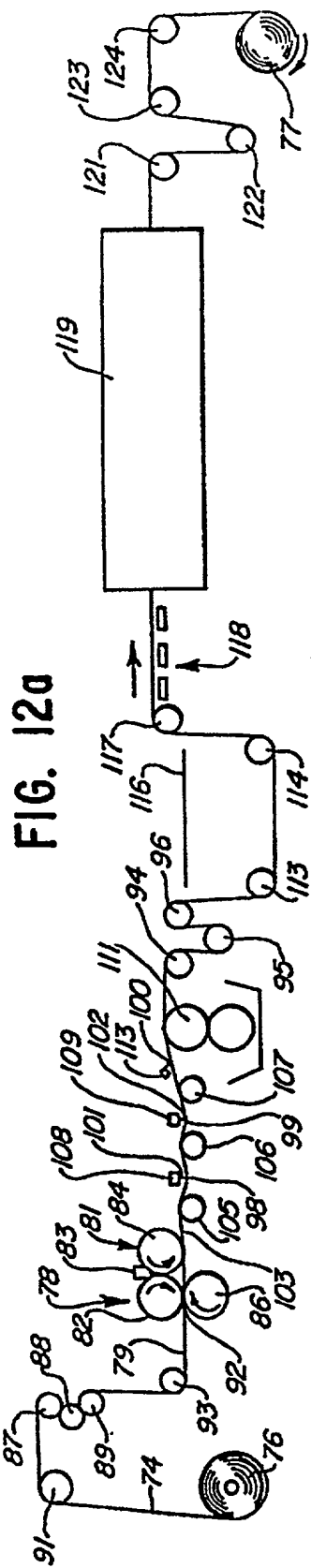


FIG. 12a

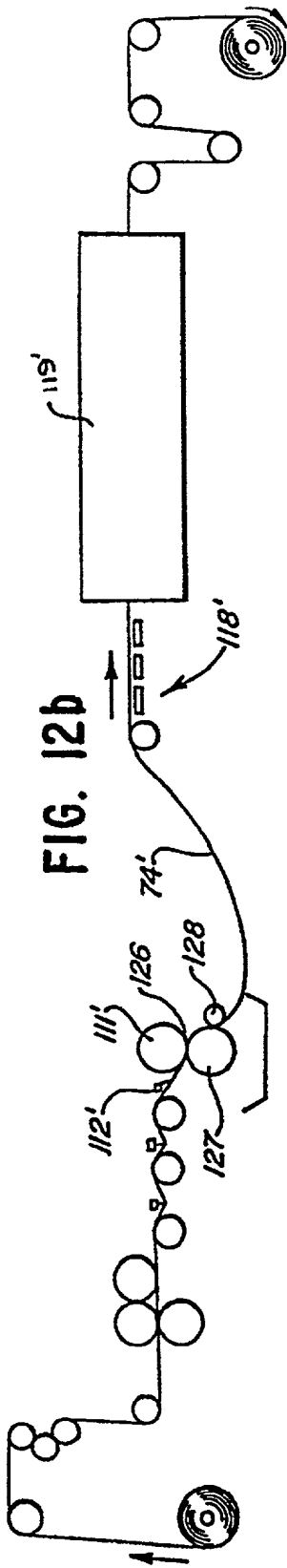
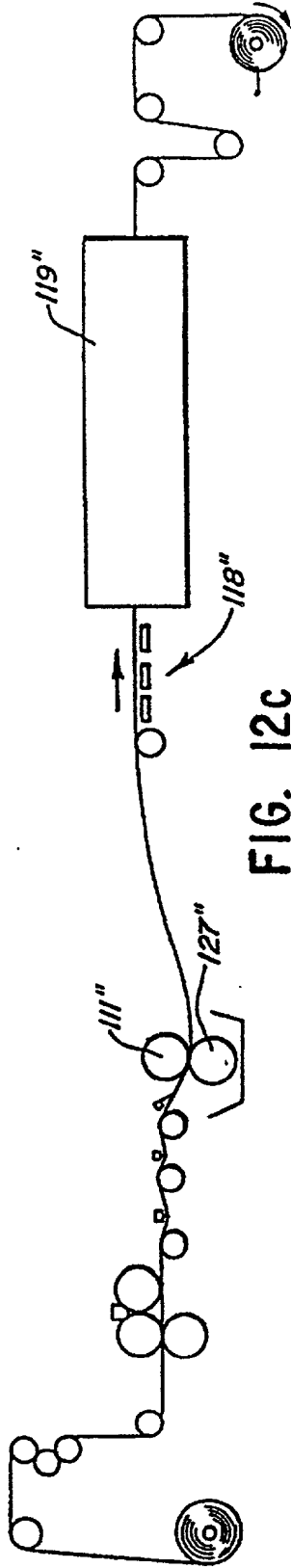


FIG. 12b



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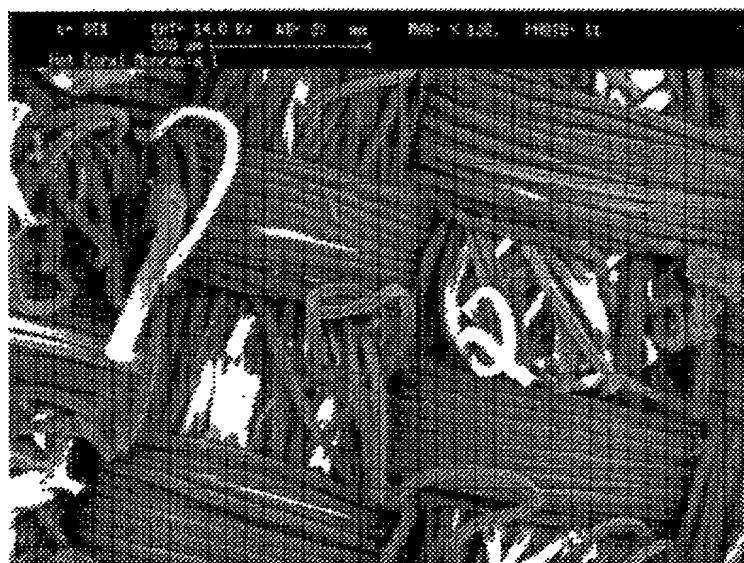


FIG. 13c

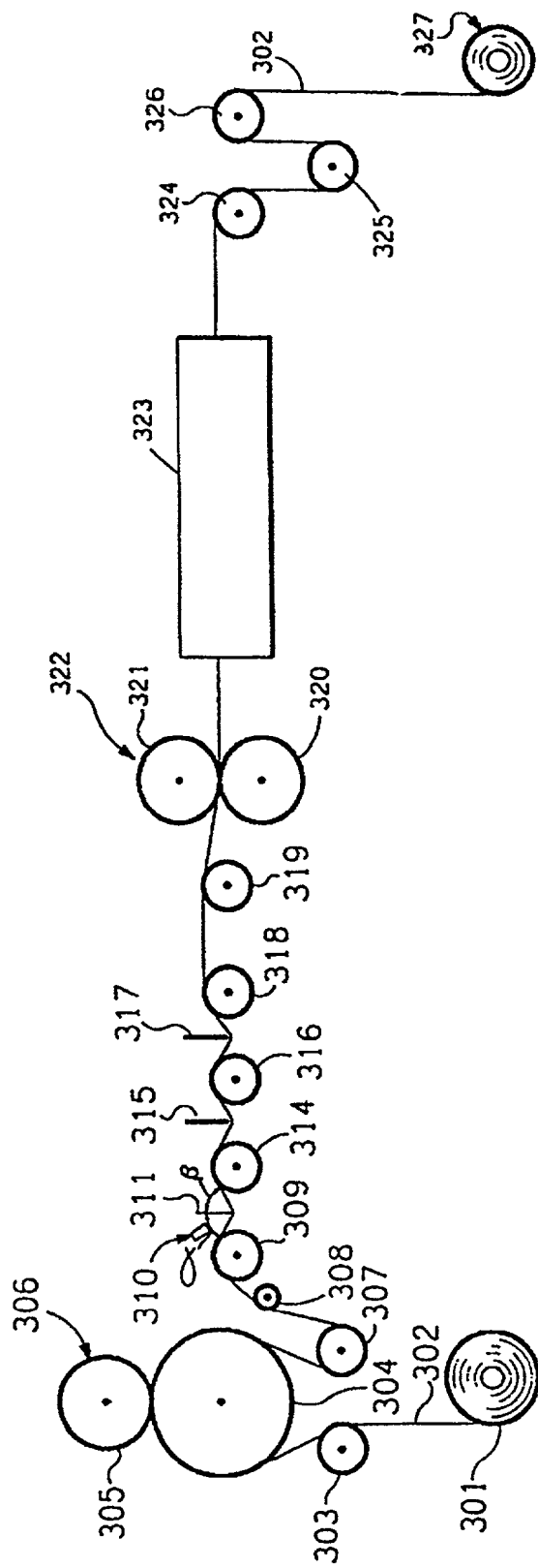


FIG. 14

X-RAY: 0 - 20 keV
Live: 126s Preset: 180s Remaining: 54s
Reel: 158s 20% Dead 20KV

2.123 keV 4.7 >
F8= 2K ch 116= 5157 cts
MEMI: Cordura 330 Den/Supplex photo=13

FIG. 15b

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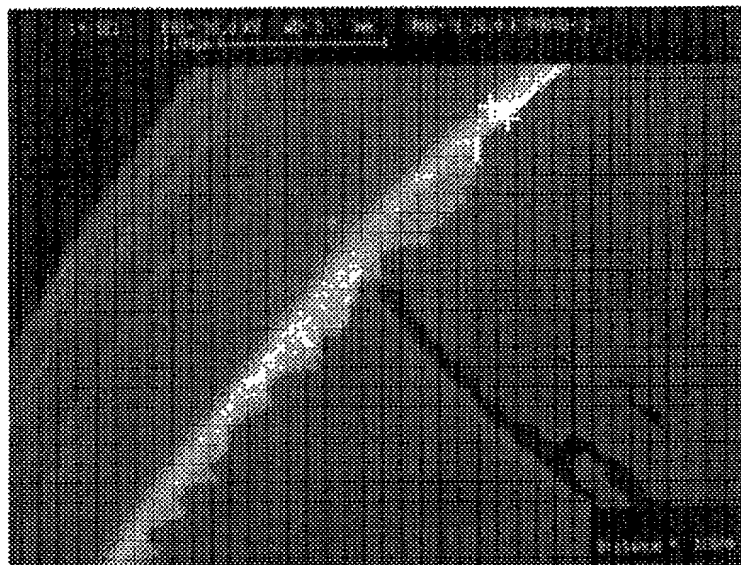


FIG. 15c

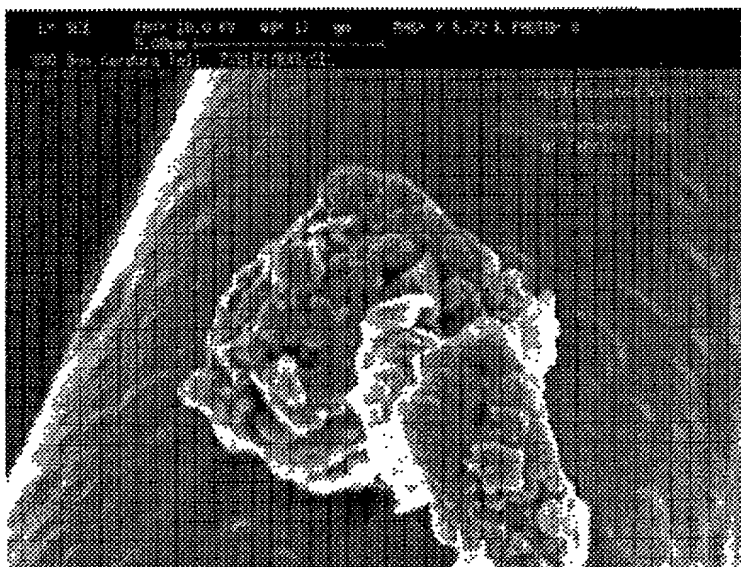


FIG. 15d

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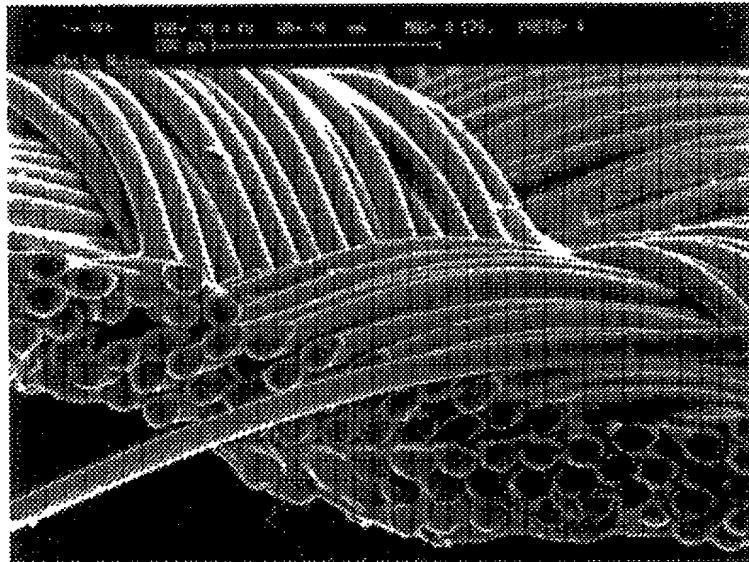


FIG. 15e

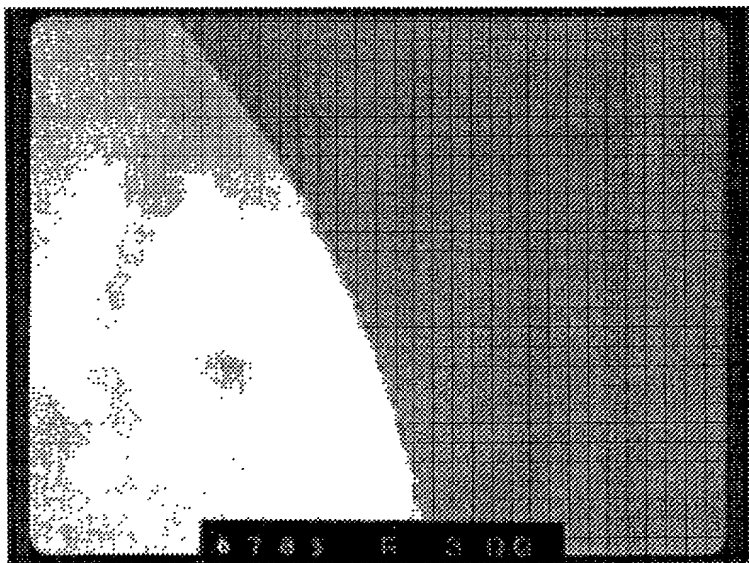


FIG. 15f

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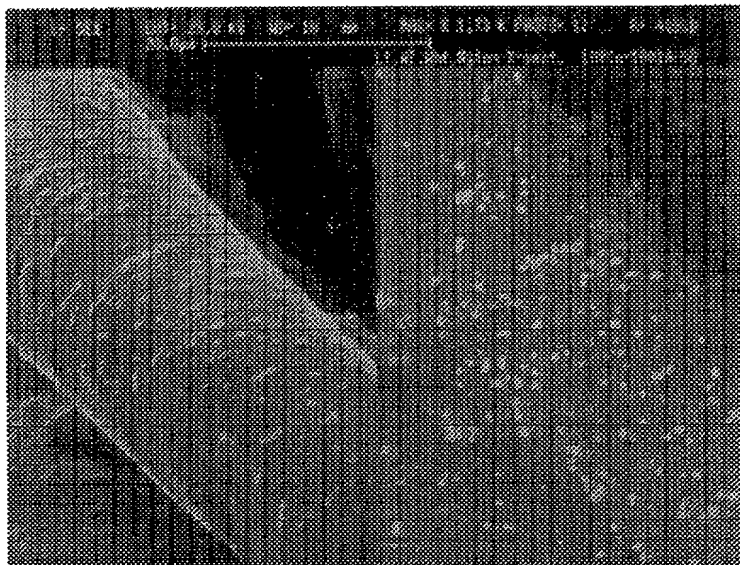


FIG. 15g

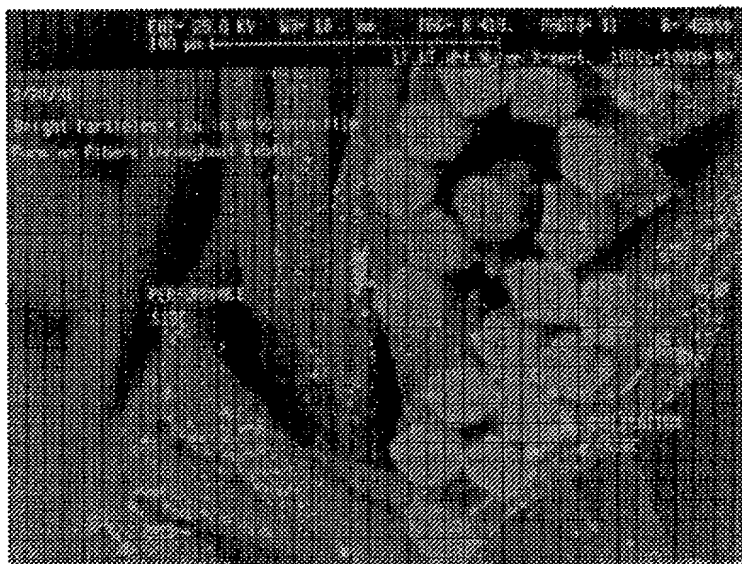


FIG. 15h

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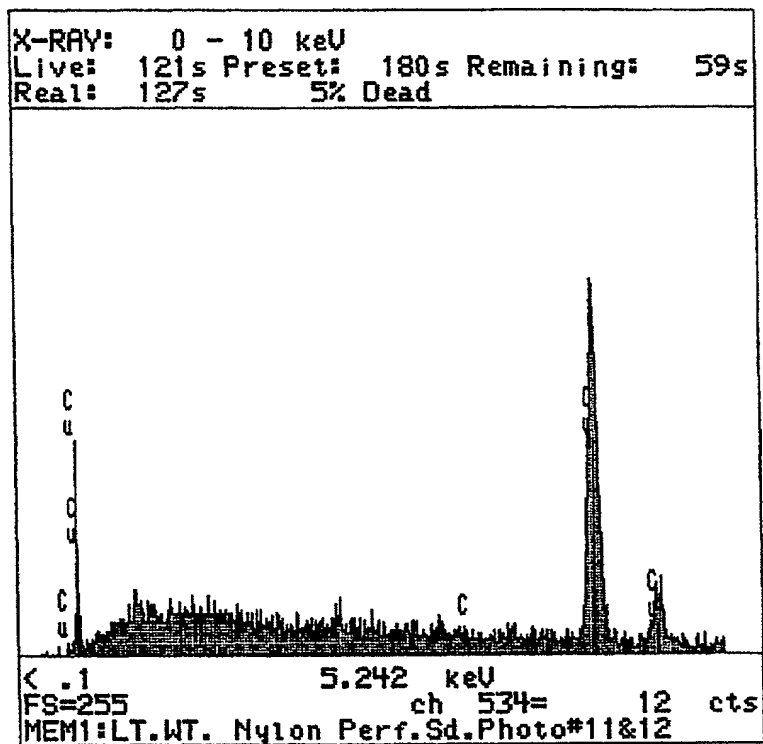
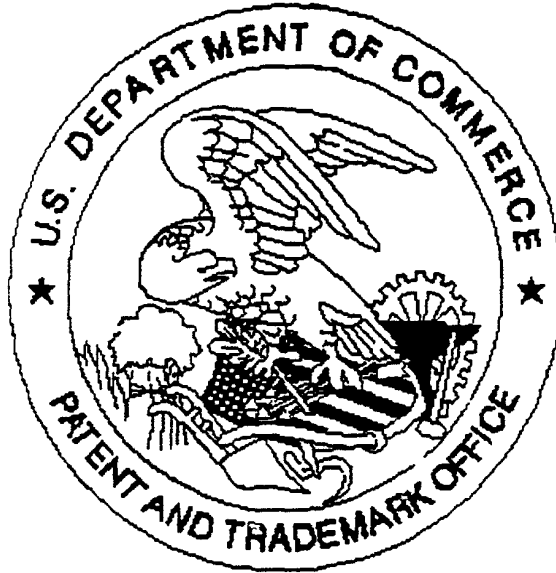


FIG. 15i

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DRAWINGS